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Alberta
AGRICULTURE, FOOD AND RURAL DEVELOPMENT

Special Crops Newsletter

Issue 6 **December, 1998**

Special Crops Product Team

The Special Crops Product Team represents a cross-section of specialists from Alberta Agriculture, Food and Rural Development and Agriculture and Agri-Food Canada. It is a liaison between industry and government. The Team's mission is to lead departmental activities in Special Crops, consistent with industry objectives, in response to diversification, value-added and market place opportunities.

Members and phone numbers (Area code 403).

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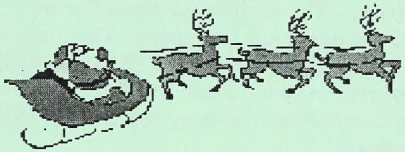
Upcoming Event

Alberta Pulse Growers Annual Meeting
Friday, February 5, 1999
10.15 a.m.
Westerner Park
Red Deer, Alberta

Contact: Alberta Pulse Growers Commission
Phone: 403-986-9398
Fax: 403-986-9398

Merry Christmas



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to our readers

From the Special Crops Product Team

Hemp Processors Hold Field Day in Manitoba

Conference Discusses New Innovations in Hemp Processing

Consolidated Growers and Processors Ltd (CGP) held a two-day meeting (August 14-15) in southern Manitoba to provide additional information on the activities of their company regarding hemp in Canada and other parts of the world. CGP Ltd. Is a publicly listed company who are based in Monterrey, California, but who have extensive business and research activities in both Europe and North America.

The first day of the hemp meeting featured a tour of several hemp farms which were contracted to grow both seed and fibre for CGP Ltd. It was announced during the tour that the company was committed to building a hemp processing plant in southern Manitoba in the next 12-18 months. Agricultural fibre is a valuable resource in Manitoba: I was able to observe the immense straw stacks which will be used in the Isoboard plant located in Eli, MB which is now producing large amounts of wheat-straw fibreboard. We were able to see several large fields of hemp which were quite impressive. Although there was some grasshopper and disease damage, the crops looked very healthy and productive. The primary highlight of the field tour was the unveiling of a $150,000 US combine imported from the Netherlands to harvest the fibre hemp crop. The machine featured a Kemper header on a 400 hp Deutz power unit (see photo). This machine performed very well in the chopping and windrowing of fibre hemp crops of up to 12' tall. However, all seed harvest in western Canada was done using conventional swathers and/or combines.

The second day was a conference which shared the research activities of CGP Ltd. Doug Campbell and Martin Moravcik of CGP Ltd. in Winnipeg hosted an impressive list of European experts. Pavlo Goloborodko and Vjacheslav Virovetch (breeders of Zolotonosha and USO varieties tested in Alberta) described the breeding efforts of the Bast Institute in the Ukraine, and showed slides of new breeding materials which are being developed for higher seed yields and smaller stature. Dr. Slavik Dushenkov presented results from work using hemp as a phytoremediation plant used to clean up soils near the "Chernobyl Zone" in Ukraine. Dr. Zenon Schneider (Professor of Biochemistry, University of Poznan, Poland) presented clinical evidence of the healthful characteristics of hempseed oil. Several European managers of various CGP enterprises detailed their work in using hemp as a strengthener in carbon-based aerospace applications, new textile and paper products and other fibre applications.

The two-day meeting was a useful overview of the activities of one company currently involved with hemp development in Canada. It is the activities of groups such as CGP and other primary and secondary processors which will determine the success of this crop in Canada.

Close up of Holland's Kemper Header Harvester in Manitoba

Dr. Stan Blade in a field of hemp under harvest

Dr. Stan Blade
Director, Crop Diversification Centre North
Alberta Agriculture, Food & Rural Development
Edmonton, AB

Report on the Special Crops Conference

Opportunities and Profits II Into the 21st Century

The Special Crops Conference, "Opportunities and Profits II Into the 21st Century", held in Edmonton from November 1-3, 1998, was a great success. About 400 participants took part in this information packed conference, related to the field scale production, processing, value-added and marketing of special crops. Those in attendance represented a good mix of farm operators, agribusiness and government personnel. The conference included a trade fair where sponsors had the opportunity to display their products and promote their businesses. A Ropin' the Web demonstration booth was set up for conference goers to learn how to search for information on the Internet. Researchers also displayed their posters and talked to participants about their projects. A lot of networking went on during coffee breaks and at the meals.

The conference provided a forum for participants to learn about and discuss the potential for crop diversification using special crops and products derived from these crops. Over 30 speakers talked about the issues, trends, challenges and opportunities associated with such crops as pulses, herbs, essential oils, hemp, and medicinal plants. Topics included crop research, marketing, value-added, processing, successful entrepreneurs and programs and services available to help in a new business venture. The information presented was practical and sure to be used in farm and business operation decision making.

During the panel discussion it became clear that better access to information was required and more partnerships need to be formed in the special crops industry. The Special Crops Product Team (SCPT) will soon be discussing possible strategies for communicating where information is available and how to access it. The team will also look into setting up a way for producers, buyers, and sellers to communicate regularly on Ropin the Web.

It also became apparent that there is a need for an umbrella group for the special crops industry. The team will organize a consultation meeting to get all the players together to form such a group which could share resources and work together to resolve issues. Success is more likely through collaborative partnership efforts. We hope to bring some industry representatives on our product team.

This conference was a great success because of sponsors, speakers, poster presenters and organizers. The speeches by Deputy Minister Doug Radke, and the Honourable Ed Stelmach, Minister, Alberta Agriculture, Food and Rural Development highlighted successes of the special crops industry and challenges ahead for this sector of the agriculture industry.

An exciting announcement at the opening of the conference further added to its success. CV Technologies, a local natural health products company and a conference partner announced a scholarship for an undergraduate student at the University of Alberta. The scholarship has been established in recognition of the interest of Alberta Agriculture in special crops, and in recognition of the importance of the contributions of the Special Crops Product Team. The scholarship is to be called the **AAFRD - Special Crops Product Team/CV Technologies Special Crops Scholarship**. The initial value of the scholarship shall be one thousand dollars ($1,000) annually. CV Technologies success is totally related and connected to scientific research and scientific excellence. They have established this scholarship in recognition of their associations with the University of Alberta and Alberta Agriculture, Food and Rural Development - Special Crops Product Team. CV Technologies is honored to have these associations.

Nabi Chaudhary
Wayne Goruk
Alberta Agriculture, Food & Rural Development
Edmonton, AB

Safflower Production in Alberta

Safflower belongs to the thistle family and has a long tap root. It is drought resistant but is not a good weed competitor.

Safflower seed originated in China and made its way to the USA. More than thirty years ago it was grown in Canada with varying results. The main problem was that the imported varieties were too late to mature giving good returns every third year.

In 1985, Saffire, a variety developed at the Lethbridge Research Station was licensed in Canada. This was followed by AC Stirling and then AC Sunset. All three varieties are short season with average yields of 1,500 pounds per acre. All produce large white seed which is in high demand for the bird seed market. AC Sunset seed contains more than 35% oil and is three to four days earlier maturing than AC Stirling. Before the safflower breeding program was phased out at Lethbridge, Dr. H.-Henning Mundel had developed two lines of safflower germ plasma which not only is high in

oleic acid which the Japanese prefer, but is also resistant to sclerotinia head rot and whose oil content is above 37%.

In the 1980's production reached 10,000 acres in Alberta and Saskatchewan. However, two bad years, 1992 and 1993, occurred where producers were lucky to get their seed back. Since then acreage has moved from a low of under 1,000 acres to 5,000 acres in 1998. 1998 was an excellent year for safflower production with good quality and good prices. A number of farmers report that this year's crop is already sold.

Last month we received two calls from agents; one looking for three containers of safflower for bird seed and the other needing safflower flower petals for pharmaceuticals.

Mike Clawson
Crop Specialist
Alberta Agriculture, Food & Rural Development
Lethbridge, AB

Borage - A Promising New Crop

This annual blue flowered plant is the subject of increasing agricultural interest because of the potential market for the oil extracted from its seed. The oil is rich in gamma linolenic acid (GLA), an unusual fatty acid which has therapeutic effects in the treatment of several medical conditions. GLA is converted by the human body into prostaglandin E1 which has been shown to lower blood pressure and inhibit cholesterol production. GLA is also considered effective in the treatment of atopic eczema, diabetes, arthritis and pre-menstrual syndrome (PMS). GLA has until recently been obtained from the oil found in the seeds of the evening primrose plant. Interest in borage results from the fact that the seed contains 38% oil of which 20% is GLA while evening primrose contains 17 - 25% oil of which 7 - 10% is GLA.

Borage is reasonably easy to grow and is adapted to almost all areas of Alberta but the cooler, moister, northern regions are preferred. This is due to the belief that oil produced in northern areas has a higher GLA content. Seeds are brown and oblong in shape and are similar in size to wheat. Maturity is 85 - 95 days. Currently, there are no registered borage varieties. Borage is seeded with conventional equipment at a rate of 17 kg ha (15 lbs/acre). Seeding depth is normally at 2.5 - 4 cm (1 - 2 inches) but can be as deep as 7.5 cm (3 inches) if needed. Late seeding is preferred as research has shown it results in higher GLA content in the seed. Seeding normally occurs in the first or second week of June. The seed is vigorous and emerges rapidly. At present there are no herbicides registered for use in borage, so field selection is very important. Borage produces excellent honey and the use of honey bees for pollination has been shown to increase yields. Harvesting is the biggest problem faced by growers. Because the plant is indeterminate in nature (continues to bloom and set seed until frost) and the seed shatters easily, only about 5 - 15% of the actual yield is normally harvested. Average yields in Alberta are in the 45 - 70 kg/ac (100 - 150 lbs/ac) range. Prices have been anywhere from $3.00 - $8.00 per kg. The final price is based on the oil content of the seed and the GLA content of the oil.

New growers should be prepared to do their homework before they invest. Even if this means taking an extra year to get started. Borage should be grown under a production contract with a reputable buyer. This reduces the risk associated with growing and marketing the crop. Buyers often provide seed and will give agronomic advice. It is also a good idea to check with a Pulse and Special Crop Specialist to see if there were any demonstration plots nearby or local growers in the area and for a list of buyers.

Paul Laflamme, P.Ag.
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The "Special Crops" newsletter is published four times per year. Please direct any questions, comments or suggestions for story ideas to:

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The newsletter is also available on the Internet at:

www.agric.gov.ab.ca/crops/special/scnews/index.html

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